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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,753	09/29/2005	Hans Strandberg	P05,0014	5101
26574	7590	03/21/2008		
SCHIEF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473			EXAMINER STOKLOS, JOSEPH A	
			ART UNIT 3762	PAPER NUMBER
			MAIL DATE 03/21/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,753

Applicant(s)

STRANDBERG ET AL.

Examiner

JOSEPH STOKLOSA

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3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 14- 27 are rejected under 35 U.S.C. 103(a) as obvious over Goldreyer (US 5,579,764).

4. Goldreyer discloses an ablating catheter with orthogonal dot electrodes (e.g. Fig. 2) for sensing cardiac signals individually (e.g. Col 8, line 41-67). Goldreyer further discloses combining said individual signals to form a combined reference signal (e.g. Col. 7, line 45-63).

5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Goldreyer with determining a synthetic reference signal and an indication signal based on respective differences since such a modification would provide the predictable results of the system determining a significant difference in potentials (positive or negative) that are indicative of a heart event or a damaged cardiac region.

6. With regard to claim 23, Goldreyer discloses the dot electrodes being disposed at the distal end of the lead as seen in Fig. 2.

7. With regard to claim 26, Goldreyer discloses delivering ablation therapy based off of mapped cardiac regions (Col. 9, line 19-31). It is of note that although Goldreyer is silent to the dot electrodes performing the electrical stimulation therapy, which they do participate in the delivery of stimulation by mapping the cardiac regions that require stimulation. As such Examiner considers the dot electrodes disclosed by Goldreyer to participate in stimulation.

8. With regard to claim 16-20, Goldreyer fails to teach a specific formula for generating the reference signal and differential signal, as well as the statistical averaging functions such as the absolute values, sum of squares, and sum of absolute values of the differential signals. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by

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Goldreyer to teach a specific formula for generating the reference signal and differential signal of $SR\text{-signal} = 1/N \times Z (U1 + \dots + UN)$ and $SR\text{-signal} = 1/N \times Z (U1 + \dots + UN)$, as well as the statistical averaging functions such as the absolute values, sum of squares, and sum of absolute values of the differential signals since such a modification would provide the predictable results of a system with data of the individual local electrical signals of the cardiac region (Col. 8, line 8-10).

9. With regard to claim 21, Goldreyer fails to teach the use of a discrimination unit to determine if a heart event has taken place based on the indication signal. It would be obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Goldreyer with the inclusion of an event detector since it was well known in the art that such a modification would provide the predictable results of a system with the predictable results of obtaining cardiac data indicative of cardiac failures where the stimulation parameters can be set based on the obtained data.

10. With regard to claim 22 and 25, Goldreyer fails to teach the processor and pulse generator are disposed within the dot electrode implanted system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Goldreyer, with making the processor and pulse generator disposed within the dot electrode implanted system, since it has been held that forming in one piece an article which has formerly been formed in two or more pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1993).

Response to Arguments

11. Applicant's arguments, see page 6, filed 12/21/2007, with respect to Claims 14, 15, 23, 24, and 26 have been fully considered and are persuasive. The 102 rejection of 10/2/2007 has been withdrawn.
12. Applicant argues that taking the differences of individually sensed cardiac signals and forming an indication signal with the differences would not have been obvious.
13. Noren (US 5,427,112) shows evidence that taking the differences of individually sensed cardiac signals and forming an indication signal with the differences is well known within the art.
14. If applicant would like to see how the Noren reference would be used in conjunction with the Goldreyer reference, the following 103 rejection would serve as an example.
15. Claims 14-27 are rejected under 35 U.S.C. 103(a) as obvious over Goldreyer in view of Noren.
16. Goldreyer fails to teach the determination of the difference between each individual signal and the combined reference signal to produce an indication signal. Noren teaches that it is known to take the differences of individually sensed cardiac signals and forming an indication signal of the differences as set forth in Col. 2, line 6-35, for providing the predictable results of determining discrepancies in the cardiac signal and identifying a cardiac condition requiring treatment. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Goldreyer, with determining the difference between

each individual signal and the combined reference signal to produce an indication signal since such a modification would provide the predictable results of determining discrepancies in the cardiac signal and identifying a cardiac condition requiring treatment.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH STOKLOSA whose telephone number is (571)272-1213. The examiner can normally be reached on Monday-Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George R Evanisko/
Primary Examiner, Art Unit 3762

Joseph Stoklosa
Examiner
Art Unit 3762

3/15/2008

/Joseph Stoklosa/

Examiner, Art Unit 3762